



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,275	09/12/2003	Bing Wang	3517-49	7602
29540	7590	01/20/2006	EXAMINER	
PITNEY HARDIN LLP			HSIEH, SHIH WEN	
7 TIMES SQUARE				
NEW YORK, NY 10036-7311			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 01/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H.D

Office Action Summary

Application No.

10/661,275

Applicant(s)

WANG ET AL.

Examiner

Shih-wen Hsieh

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
 Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9 and 12-19 is/are allowed.
- 6) ☒ Claim(s) 11 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9-12-03; 7-8-05 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11-22-05</u> . | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. The indicated allowability of claim 11 is withdrawn in view of the newly discovered reference(s) to Kitahara (US Pat. No. 6,338,554 B1). Rejections based on the newly cited reference(s) follow. Accordingly, the finality of this case is withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2861

3. Claims 11 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodama (US Pat. No. 4,356,499) in view of Hobson et al. (US Pat. No. 6,199,979 B1) and further in view of Kitahara (US Pat. No. 6,338,554 B1).

In regard to:

Claim 20:

Kodama teaches:

An ink jet recording apparatus for recording onto a recording medium, the ink jet recording apparatus comprising:

an ink supply source (fig. 1A, where marked "pressurized ink", col. 2, lines 58-59) that supplies ink;

a supply path (24, fig. 1A) connected to the ink supply source;

a buffer tank (26, fig. 1A, Kodama called it an ink manifold corresponding to the buffer tank in the instant application) that stores ink supplied from the ink supply source through the supply path, refer to col. 2, lines 58-62;

an ink jet head (1_n , fig. 2) having a plurality of ejection nozzles (1_1 to 1_8 , fig. 2A) from which ink supplied from the buffer tank is ejected onto the recording medium, refer to col. 2, lines 62 to 68 and col. 3, lines 26-28;

a top lid member (fig. 1A, where the coupling 25 is disposed) forming at least a top wall of the buffer tank, the top lid member being formed with an ink inflow port (the place where connects to coupling 25) that is connected to the supply path, refer to col. 2, lines 58-62;

a bottom lid member (fig. 1A, where the coupling 27n is disposed) forming a bottom wall of the buffer tank, the bottom lid member being formed with an outlet (the place where connects to coupling 27n) for supplying ink to the ink jet head, refer to col. 2, lines 58-68.

The device of Kodama DIFFERS from claim 20 in that it does not teach:

a filter attached to the bottom lid to cover the ink outlet from inside the buffer tank, at least the filter having been subjected to a process for enhancing hydrophilic properties, at least the filter being subjected to plasma processing.

Filter is generally used in an ink tank so as to filtering out debris in supplying ink to the print head. In that sense, Hobson et al. teach an ink filter, which has the property of hydrophilic. However, Hobson et al. teach how to enhance the hydrophilic nature of the ink filter, refer to col. 8, lines 10-14.

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device of Kodama to include the method of enhancing the hydrophilic nature of the ink filter taught by Hobson et al. for the purpose of providing a high filtration efficiency at a very low resistance to ink flow.

The device of Kodama as modified in view of Hobson et al. DIFFERS from claim 20 in that it does not teach the underlined portion above, i.e.,: at least the filter being subjected to plasma processing.

Kitahara teaches a filter (6, fig. 1) is used in an ink flow path, which allows ink flows from cartridge A (fig. 12(a) through this filter to the print head. A special construction of this filter is shown in figs. 5 and 6. In this filter for filtering ink, its upper

Art Unit: 2861

layer is ink repellent treated, its bottom layer is ink lyophilic treated. The upper layer, which is ink repellent treated is by employing a process of plasma polymerization, refer to col. 3, lines 35-65.

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device of Kodama as modified in view of Hobson et al. to include the filter to be ink repellent treated by employing the plasma polymerization process for the purpose of easily removing an air bubble B2 (fig. 6) based on the properties of the upper and under sides of the filter being special treated as discussed above.

Claim 11:

A method of manufacturing a buffer tank for an ink recording apparatus, the buffer tank being for holding that supplied from an ink supply source through a supply path and for supplying the ink to an ink head, the manufacturing method comprising:

preparing a bottom lid with an ink outlet for supplying ink to the ink jet head, the bottom lid having one side designated face inward when joined into the buffer tank ;

attaching a filter to the bottom lid so as to cover the ink outlet from the side designated to face inward;

preparing a top lid with an ink inflow port for receiving ink from the supply path;

subjecting at least the filter on the bottom lid to a process for enhancing hydrophilic properties; and

joining the bottom lid and top lid to form the buffer tank, wherein the filter is located inside the buffer tank and said filter is subjected to plasma processing.

Rejection:

This method claim is a claim corresponding to the apparatus claim, claim 20. The method steps in this claim are deemed to be made obvious by the functions of the structure in the combination discussed above.

Response to Arguments

4. Since a new reference was found during an up-to-date search, therefore, the allowability to claim 11 was withdrawn, and rejections to claims 11 and 20 are set forth in this office action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-wen Hsieh whose telephone number is 571-272-2256. The examiner can normally be reached on 7:30AM -5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, S D. Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should


Application/Control Number: 10/661,275

Page 7

Art Unit: 2861

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

SHIH-WEN HSIEH
PRIMARY EXAMINER

Shih-wen Hsieh
Primary Examiner
Art Unit 2861

SWH



Jan. 17, 2006